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REMARKS

The application has been reviewed carefully in light of the Office Action dated January 12, 2006. Claims 1-3 and 5-21 were pending. By this Amendment, claims 1-3, 5-9 and 15-20 have been canceled, without prejudice or disclaimer, and claims 10-13 and 21 have been amended to place the claims in better form for examination and/or to clarify the claimed invention. Accordingly, claims 10-14 and 21 are now pending, with claims 10-13 and 21 being in independent form.

Claim 21 was objected to as having informalities.

By this Amendment, claim 21 has been amended to correct the informalities noted in the Office Action.

Withdrawal of the objection to the claim is respectfully requested.

Claims 1-3, 5, 6, 9, 10, 12 and 18 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,679,600 to Regimbal in view of U.S. Patent No. 5,143,904 to Minato et al. Claims 7, 13, 14, 16, 17, 19 and 20 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Regimbal in view of Minato and further in view of U.S. Patent No. 6,338,545 to Sekiya ("Sekiya '545"). Claims 8 and 15 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Regimbal in view of Minato and Sekiya and further in view of U.S. Patent No. 6,036,302 to Hotomi. Claim 21 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Regimbal in view of Minato and further in view of U.S. Patent No. 6,533,477 to Fukuda.

This application relates to ink-jet recording apparatuses (including ink-jet copiers and recording media for such apparatuses) adapted with assorted features which enable recording on both sides of a recording medium with high image quality.

For example, claim 10 is directed to an ink-jet recording apparatus which enables the

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printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and wherein the ink-jet recording apparatus has a rotation control mechanism which rotates the orientation of the recording medium by putting the recording medium on a tray and then rotating the tray by 180 degrees.

Claim 12 is directed to an ink-jet recording apparatus which enables the printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and comprises a twisted path provided on the conveyance path, the shape of which is twisted so that the front and back sides of the recording medium, which passes through the twisted path, is turned upside down for substantially 180 degrees.

Claim 13 is directed to an ink-jet copier which has a memory for storing data that is sent to the printing unit in a reverse order for printing in a reverse direction between one side of the recording medium and the other side of the recording medium, wherein the reverse direction means from bottom to top direction.

Claim 21 is directed to an ink-jet recording apparatus which enables the printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and wherein the ink-jet recording apparatus has a memory for storing data that is sent to the ink-jet recording head in the reverse order for printing in the reverse direction between one side of the recording medium and the other side of the recording medium, wherein the reverse direction means from bottom to top direction.

Regimbal and Minato were cited in the Office Action against claims 10 and 12.

Regimbal, as understood by Applicant, is directed to techniques for producing printed images having increased gloss level. Regimbal proposes a mechanism for double-sided printing

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which includes a reversing leg 66, a diverter 68 and rollers 70, by which a sheet of image media can reverse in direction of conveyance, without turning the sheet upside down, for double-sided printing. In addition, Regimbal proposes that double-sided printing is achieved by reversing a direction of travel of the paper, as shown by arrow 30 in figure 1, at references 66, 68.

Minato, as understood by Applicant, is directed to a dye image-receiving sheet for thermal transfer printing systems.

However, Applicant does not find teaching or suggestion in the cited art of an ink-jet recording apparatus which enables the printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and wherein the ink-jet recording apparatus has a rotation control mechanism which rotates the orientation of the recording medium by putting the recording medium on a tray and then rotating the tray by 180 degrees, as provided by the claimed invention of claim 10 as amended.

In addition, Applicant does not find teaching or suggestion in the cited art of an ink-jet recording apparatus which enables the printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and wherein the ink-jet recording apparatus includes a twisted path provided on the conveyance path, the shape of which is twisted so that the front and back sides of the recording medium, which passes through the twisted path, is turned upside down for substantially 180 degrees, as provided by the claimed invention of claim 12 as amended.

Sekiya '545 was cited against claim 13 and is directed to various improvements to liquid jet recording techniques which enable high-quality and high-resolution images to be produced.

Applicant does not find teaching or suggestion in Sekiya '545 or the other cited references, however, of an ink-jet recording apparatus which has a memory for storing data that is

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sent to the printing unit in a reverse order for printing in a reverse direction between one side of the recording medium and the other side of the recording medium, wherein the reverse direction means from bottom to top direction, as provided by the claimed invention of claim 13 as amended.

Regimbal, Minato and Fukuda were cited in the Office Action against claim 21.

Fukuda, as understood by Applicant, is directed to a thermosensitive line printer. Fukuda proposes that estimation values of density deviations are calculated for an upper zone and a lower zone of the page, and in limited circumstances in which the estimation value in the lower zone is smaller, image data stored in an image memory is read out from the bottom side to the top side.

However, Applicant does not find teaching or suggestion in the cited art of an ink-jet recording apparatus which enables the printing unit to print images on the recording medium such that the vertical orientations of the images printed on both sides of the recording medium coincide with each other, and wherein the ink-jet recording apparatus has a memory for storing data that is sent to the ink-jet recording head in the reverse order for printing in the reverse direction between one side of the recording medium and the other side of the recording medium, wherein the reverse direction means from bottom to top direction, as provided by the claimed invention of claim 21 as amended.

The Office Action indicated that claim 11 has been allowed.

By this Amendment, claim 11 has been amended to remove redundancies and informalities therein, and by rewriting the claim in independent form including all of the limitations of the base claim and any intervening claims.

In view of the amendments to the claims and remarks hereinabove, Applicant submits that the application is now in condition for allowance. Accordingly, Applicant earnestly solicits the allowance of the application.

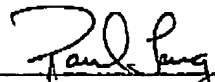
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If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any fees, including additional claims fees, that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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